

CONFIDENTIAL

OP 1451

(PRELIMINARY)

5"/38 WINDOW PROJECTILES



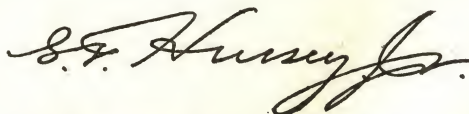
NAVY DEPARTMENT
BUREAU OF ORDNANCE
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**ORDNANCE PAMPHLET 1451 (PRELIMINARY)
5"/38 WINDOW PROJECTILES**

1. Ordnance Pamphlet 1451 (Preliminary) contains a brief discussion of 5"/38 window projectiles.
2. Because of the urgent need for this information, it has been issued in preliminary form. This Ordnance Pamphlet will be revised and issued in complete, final form as soon as practicable.
3. This pamphlet supersedes Ordnance Circular Letter A51-44, which should be destroyed by burning.
4. This publication is **CONFIDENTIAL** and shall be safeguarded in accordance with the security provisions of U. S. Navy Regulations, 1920, Articles 75½ and 76.



G. F. HUSSEY, JR.
Rear Admiral, U. S. Navy
Chief of the Bureau of Ordnance

PROJECTILES**INTRODUCTION**

The 5"/38 window projectiles are standard 5"/38 Illuminating Projectiles Mk 30 and Mods or Mk 44 and Mods loaded with special contents in place of the usual pyrotechnic candle and parachute. The window load contained within the projectile is called the Projectile Load (Window) Mk .. Mod ...

DESCRIPTION

Three types of window loads have been developed, as described below:

Projectile Load (Window) Mk 1 Mod 1—This load consists of a pack of metal foil strips, each of which is 3/16 in. wide by eight inches long. The strips (approximately 13,800) are stacked within a stepped cylindrical form, which is encased in a longitudinally split steel sleeve. The loaded sleeve is then inserted into the cavity of the projectile. Weight of the loaded and fuzeed projectile is approximately 53.8 pounds.

Projectile Load (Window) Mk 2 Mod 0—This load consists of 19 rolls of metal foil (occasionally referred to as "rope") stacked within a longitudinally split steel sleeve. Each roll consists of a length of metal foil one-half inch wide by approximately 600 feet in length. In order to insure streaming out of the rolls, a cardboard disc is fixed to one end of each roll. The diameter of the roll is approximately 3.90 inches. Rolls are separated from one another by aluminum discs. Weight of the loaded and fuzeed projectile is approximately 54.6 pounds.

Projectile Load (Window) Mk 4 Mod 0—This load consists of two stacks of metal foil strips which are 5.1 inches long by 3/16 inch wide. There are approximately 13,800 strips in each stack, giving a total of 27,600 strips in each load. The strips are stacked within a stepped cylindrical form, which is encased in a longitudinally split steel sleeve. Weight of the loaded and fuzeed projectile is approximately 53 pounds.

HOW THE PROJECTILES WORK

Window projectiles are fuzeed with standard Mechanical Time Fuze Mk 18 and Mods or Mk 50 and Mods. Directly below the fuze is a 2 1/2-ounce black powder ejection charge contained within a silk or rayon bag. Directly below the ejection charge is a steel baffle plate which rests

on the split steel tube. When the ejection charge is ignited, the resulting pressures on the baffle plate force the steel sleeve and the window load out from the base end of the projectile, after forcing out the base plug. Upon ejection, the foil strips are dispersed, forming a metallic cloud which drifts with the wind, while falling slowly to the surface. The foil will sink within a few minutes after hitting the surface.

BALLISTIC DATA

Ballistically, the 5"/38 window projectiles perform in approximately the same manner as do standard 5"/38 illuminating projectiles. Existing range curves and fuze-setting data for firing the 5"/38 illuminating projectiles with Mechanical Time Fuze Mk 18 and Mods will apply for window projectiles.

MARKING

Window projectiles are painted with aluminum paint, and a "W" in black paint is stenciled on opposite sides. Directly below the "W" is stenciled the appropriate Mark and Mod designation of the particular load. The particular load Mark and Mod designation also appears elsewhere on the projectile body. Shipping boxes, carrying two fuzeed projectiles per box, are labeled "5"/38 Projectile with Projectile Load (Window) Mk .. Mod ..."

STOWAGE

Window projectiles should be stowed under conditions similar to those in which illuminating projectiles are stowed. It is essential that the aluminum foil strips and the black powder ejection charge be protected from moisture.

DISASSEMBLY

No attempt should be made to disassemble projectiles as received.

SHIPPING

Shipments of 5"/38 window projectiles will be made to forward areas for distribution there as directed by fleet, force, or type commanders. No standard allowance of 5"/38 window projectiles has been established as yet.

The 5"/38 window projectiles may be shipped within the continental limits of the United States in the same manner as other ammunition. That is, no special security measures are required. Ex-continental shipments must be made in ships flying the United States flag.

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